



DR. SAMARESH GHOSH
ASSOCIATE PROFESSOR
Department of Chemistry,
Bankura Sammilani College
Kenduadihi, Bankura-722102, WB, India.
E-mail: gsamaresh@yahoo.com; Mob: 9434996924
Date of Birth: 24th October, 1973

Academic and Professional Career

Associate Professor, Chemistry, March 2017-present, Bankura Sammilani College, Bankura University.
Assistant Professor, Chemistry, March 2005-March 2017, Bankura Sammilani College, The University of Burdwan.

Guest Faculty, November 2011 – June 2014, Chemistry, Sidho-Kanho-Birsha-University, Purulia.

Postdoctoral Research Fellow, 2004-05, (SRF-Ext-CSIR), Indian Institute of Technology, Kharagpur

Junior & Senior research fellow, 1999- 2004, Indian Institute of Technology, Kharagpur

Ph.D, 2005, Indian Institute of Technology, Kharagpur, Supervisor: Prof. Ajit K. Banthia.

M. Tech, 1998-99, Materials Sc. & Eng., Specialization in Polymer Science, Indian Institute of Technology, Kharagpur.

M. Sc, 1997, Specialization in Organic Chemistry, Indian Institute of Technology, Kharagpur.

B. Sc, 1995, Chemistry Hons., Midnapore College, Vidyasagar University, WB.

Awards and/ or other recognitions received:

■ Qualified GATE, 1997 (All India Rank 07) ■ Qualified NET: CSIR, 1997 ■ Qualified State Level Eligibility Test, 1997, West Bengal.

■ Received Recognition as a Research Guide (Supervisor) leading to PhD degree in Chemistry under the University of Burdwan (Ref.: R-PhD/Recognition/Chem/Sc/65) (Self-attested copy of certificate enclosed).

■ Received Recognition as a Research Guide (Supervisor) leading to PhD degree in Chemistry under Bankura University.

Membership:

■ Member: American Chemical Society; ■ Life member (LM 241): Society for Biomaterials and Artificial Organs – India.

Research Interests:

ORGANIC MATERIALS CHEMISTRY with special reference to macromolecules with engineered architecture, functionality and functions.

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Faculty Development Courses or Programmes attended

Details of Courses	Institution & Place	Period of Courses attended	Total duration of the Course in weeks/days
UGC sponsored 65 th Orientation Programme	Academic Staff College – The University of Burdwan	4 th March 2008- 31 st March 2008	28 days
UGC sponsored 1st Refresher Course in Materials Science	Academic Staff College – The University of Burdwan	28 th June 2013- 18 th July 2013	21 days
UGC sponsored Refresher Course in Basic Science	Academic Staff College – Ranchi University, Ranchi	11 th January 2016- 31 st January 2016	21 days

Research projects:

- UGC Minor Research Project (Ref: PSW.04/06-07(ERO))-(Principal Investigator)- Completed
- DST-FAST TRACK Project (Ref: SR/FTP/CS-88/2007; dated 10th March, 2008)- (Principal Investigator)-Completed (Grade obtained: Very good)---- Completed
- UGC Major Research Project (Ref: 41-205/2012 (SR), dt 17.7.2012) -(Principal Investigator)—Ongoing (Status of progress marked by UGC: Very good)---- Completed

Research Supervision:

Scholar Name	Thesis Title	University/Institute	Status	Completed in Year
Mridula Acharyya	Phenolic resin-based polymeric materials: design, syntheses and properties	Vidyasagar University (Registration No. 00404 of 2014-2015)	Awarded	2021
Rajkumar Manna	Design and syntheses of epoxy-based macromolecular sensors	ISM-IIT- Dhanbad (Registration No. 2016DR1112, Dt 15.12.2016).	Awarded	2021
Kanta Mohan Kisku	Area: Polymer nanoparticles composites: synthesis and applications	Bankura University (Registration No. BKU/Ph.D./CHEM-03/2020-21/ 11-21 w.e.f. 10.08.2021).	Enrolled (2020-21)	Ongoing

Conference /Seminar/Workshop Organised

- UGC sponsored National Conference on Windows of Chemistry-I (NCWC-I, 2008) held on February 7-9 at Bankura Sammilani College, Bankura, WB, (Role in the event: Co-convener).
- **State Level** one day seminar on Recent Trends in Chemical Sciences (RTCS – 2015) held on 16th July, 2015 at Bankura Sammilani College, Bankura, WB, (Role in the event: Treasurer).

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Publications in Journals:

1. **S. Ghosh**, A. K. Banthia, “*Synthesis of photoresponsive polyamidoamine (PAMAM) dendritic architecture*” **Tetrahedron Lett.** 2001, 42, 501.
2. **S. Ghosh**, A.K. Banthia, “*Photoswitchable architectural polymer: Toward azo-based polyamidoamine side chain dendritic polyester*”. **J. Polym. Sci, Part-A, Polym. Chem.** 2001,39, 4182.
3. **S. Ghosh**, A.K. Banthia, “*Synthesis of novel polyamidoamine (PAMAM) side chain dendritic oligourethane architecture*” **Polymer Bull.** 2001, 47, 143.
4. **S. Ghosh**, A. K. Banthia. “*Biodegradability studies of low molecular weight polyhydroxyether of bisphenol-A and its estermodified copolymers by soil burial method*”. **Plastics, Rubber and Composites**, 2001, 30, 141.
5. **S. Ghosh**, A. K. Banthia, “*Towards fluorescence sensing polyamidoamine (PAMAM) dendritic architectures*” **Tetrahedron Lett.** 2002, 43, 6457.
6. **S. Ghosh**, A. K. Banthia. “*Toward chiral polyamidoamine (PAMAM) dendritic architecture with tartaric acid core*” **J. Indian Chem. Soc.** 2002, 79, 442.
7. **S. Ghosh**, A. K. Banthia, B. G. Maiya. “*New insight into the synthesis of a novel azo-based optically active polyamidoamine side chain dendritic polyester architectural photoswitch*” **Organic Lett.** 2002, 4, 3603.
8. **S. Ghosh**, A. K. Banthia, S. Dasgupta, R. Banerjee., “*Micrbial degradation of polyhydroxyether of bisphenol-A using pseudomonous species*” **J. Indian Chem. Soc.** 2003, 80, 147.
9. **S. Ghosh**, A. K. Banthia, “*An approach to novel polyamidoamine (PAMAM) side chain dendritic polyesterurethane (SCDPEU) block copolymer architecture*” **Eur. Polym. J.** 2003, 39, 2141.
10. S.P. Goswami, K. Ghosh, **S. Ghosh**, “*Influence of π -Stacking along with Hydrogen bonding interactions in the recognition of monocarboxylic acids*” **J. Indian Chem. Soc.** 2003, 80(12), 1187.
11. **S. Ghosh**, A.K. Banthia, *Fluorophore-labeled polyamidoamine (PAMAM) dendritic architectures: Synthesis and fluorescence sensing properties*” **Supramol. Chem.** 2004, 16(7), 487.
12. **S. Ghosh**, A. K. Banthia, “*A facile one-pot synthesis of fluorescent hyperbranched polyesteramine (PEA) architecture*” **Polymer Bull.** 2004, 52, 243.
13. **S. Ghosh**, A.K. Banthia, “*Biocompatibility and antibacterial activity studies of polyamidoamine (PAMAM) dendron / side chain dendritic oligourethane (SCDOU)*” **J. Biomed. Mater. Res. Part-A**, 2004, 71A(1), 1.
14. **S. Ghosh**, “*Novel polyethyleneglycol embedded polyamidoamine (PAMAM) side chain dendritic polyurethane (SCDPU-PEG) architecture: Synthesis and preliminary studies on the cytotoxicity and interaction with tryptophan molecule*” **Biomacromolecules** 2004, 5, 1602.
15. **S. Ghosh**, review article on “*Synthetic polymer-based drug delivery systems: An emerging and challenging field in biomedical applications*” **J. Chem. Res.** 2004, 241.
16. **S. Ghosh**, A.K. Banthia, Z. Chen, *Synthesis and phoresponsive study of azobenzene centered polyamidoamine dendrimers*” **Tetrahedron** 2005, 61, 2889.
17. **S. Ghosh**, “*Antibacterial effects of silver doped polyethyleneglycol based polyamidoamine side chain dendritic polyurethane*” **J. Macromol. Sci. Pure & Appl. Chem. Part-A**, 2005, 42, 765.

18. S. Ghosh, A. K. Banthia, "Toward Light Harvesting Hyperbranched Polyesteramine Host - Guest Complex" *Supramol. Chem.* 2005, 17, 409.
19. S. Ghosh, A. K. Banthia, "Silver doped antibacterial polyamidoamine side chain dendritic polyesterurethane (SCDPEU) architectures" *J. Mater. Sci.* 2006, 118.
20. S. Ghosh, "New strategy toward novel hyperbranched phenol-formaldehyde resin: Synthesis, characterization and curing study" *Adv. Materials Res.* 2007, 29-30, 177.
21. S. Ghosh, "Studies on the complexation behaviour of copper(II) ions with polyamidoamine (PAMAM) dendron" *J. Indian Chem. Soc.* 2007, 84, 93.
22. S. Ghosh, S. M. Mandal, "Novel Ibuprofen-based Polyurethane: A New Approach for Drug Delivery" *J. Macromol. Sci. Pure & Appl. Chem. Part-A*, 2008, 45, 1-4.
23. S. Ghosh "Extraction of azo dye molecules from aqueous solution using polyamidoamine dendrimer based polymeric network" *J. Chem. Res.* 2008, 419.
24. S. Ghosh, C.K. Dey "Epoxy based polymer bearing activated azo dye (Methyl Orange) units: Novel colorimetric indicator for amines" *Supramol. Chem.* 2009, 21, 591.
25. S. Ghosh, C.K. Dey, R. Manna, "Epoxy-based polymer bearing 1-naphthylamine units: highly selective fluorescent chemosensor for ferric ion", *Tetrahedron Lett.* 2010, 51, 3177.
26. S. Ghosh, R. Manna, "Epoxy-based oligomer containing dithia-aza-based naphthylazobenzene pendant: A chemosensor for Hg²⁺ and Cu²⁺ ions", *Supramol. Chem.*, 2011, 23, 558.
27. S. Ghosh, M. Acharyya, R. Manna, C. K. Dey; "Removal of Azo Dye Molecules from Aqueous Solution Using Novolac Resin Based Network Polymer" *Bull. Chem. Soc. Jpn.* 2011, 84(3), 349.
28. S. Ghosh, C. K. Dey; "Epoxy Based Polymer Bearing Activated 3-Arylazopyridine Unit as a Chromogenic Probe of Hg²⁺ Ion" *J. Macromol. Sci. Pure & Appl. Chem. Part-A*, 2014, 51, 217.
29. S. Ghosh, R. Manna; "Epoxy-based polymer bearing triphenylamine units: a highly selective fluorescent chemosensor for Hg²⁺ ions" *RSC Adv.*, 2014, 4, 5798.
30. S. Ghosh, R. Manna; "Epoxy-based polymeric probe bearing trifluoroacetyl azobenzene units: Selective colorimetric sensing of aliphatic primary amines" *Macromolecules: An Indian Journal*, 2015, 11, 37.
31. S. Ghosh "Epoxy-based oligomer bearing naphthalene units: Fluorescent sensor for 4-nitrophenol" *Tetrahedron Lett.* 2015, 56, 6738.
32. S. Ghosh "Epoxy-based oligomeric probe bearing naphthalene units for selective turn-OFF fluorescent sensing of fluoride anion" *Supramol. Chem.* 2016 (<http://dx.doi.org/10.1080/10610278.2016.1139113>).
33. S. Ghosh, M. Acharyya, "Design of novolac resin-based network polymers for adsorptive removal of azo dye molecules" *RSC Adv.*, 2016, 6, 28781.
34. S. Ghosh, R. Manna, "Chromogenic Signaling of Amine and Diamine with Hyperbranched Polymer Bearing (Trifluoroacetyl)azobenzene Surface Units" *Chem. Select.* 2016, 1, 6558.
35. S. Ghosh, R. Manna "Toward dithia-aza based Malachite Green probe: Colorimetric Chemosensor for Hg²⁺ ions" *J. Indian Chem. Soc.* 2017, 94, 801.

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36. P. Mandal, **S. Ghosh**, “Green synthesis of poly(vinyl alcohol)–silver nanoparticles hybrid using Palash (*Butea monosperma*) flower extract and investigation of antibacterial activity” **Polymer Bull.** 2018, 75, 1949.
37. **S. Ghosh**, M. Acharyya, S.C. Manna “Novolac Resin-Based Networks for Adsorptive Removal of Azo Dye (Orange-II)” **American Journal of Chemistry and Application.** 2018, 5, 29.
38. **S. Ghosh**, R. Manna, S. Dey, “Polyurethane network using 1-naphthylamine embedded epoxy-based polymer: ferric ion selective fluorescent probe” **Polymer Bull.** 2018 (doi.org/10.1007/s00289-018-2374-2).
39. **S. Ghosh**, M. Acharyya, S.M. Mandal “Novolac-based polymer-silver nanoparticles hybrid: Synthesis, characterization and antibacterial evaluation” **Current Applied Polymer Science.** 2019, 3, 75.
40. S. M. Mandal, S. Chakraborty, S. Sahoo, S. Pyne, **S. Ghosh**, R. Chakraborty, Novel Compound from Flowers of Moringa oleifera Competently Active against Multi-Drug Resistant Gram-negative Bacilli, **Infect Disord Drug Targets.** 2018 (DOI: 10.2174/1871526518666181001124420).
41. **S. Ghosh**, R. Manna, S. Dey, Epoxy-based polymer incorporating 1-Naphthylamine and sebacic acid moieties: A selective fluorescent sensor for ferric ions, **J. Molecular Structure** 2019, 1180, 406.
42. **S. Ghosh**, M. Acharyya, Azo-dye adsorption activity of iron(III) loaded novolac-based network sorbents, **Chemical Reports** 2019, 1, 51.
43. P. Mandal, **S. Ghosh**, “Green Approach to the Synthesis of Poly(Vinyl Alcohol)- Silver Nanoparticles Hybrid Using Rice Husk Extract and Study of its Antibacterial Activity” **Biointerface Res. Appl. Chem.** 2020, 10, 6474.
44. **S. Ghosh**, M. Acharyya, “Pyridine-Rich Novolac Based Network as an Effective Adsorbent for Removing Azo Dyes” **Chem Select.**, 2020, 5 ,10727.

Papers presented in state / national / international conferences:

1. **S. Ghosh**, A.K. Banthia. “One pot synthesis of fluorophore labeled novel hyperbranched polyesteramine (PEA) architecture” presented in a symposium on “Current perspectives in Organic Chemistry”, held on 24-25th Jan, 2002 at IACS, Jadavpur, Kolkata, India.
2. **S. Ghosh**, A. K. Banthia, “Biodegradability of low molecular weight ester modified polyhydroxyether of bisphenol-A by soil burial method”, Proceedings on “ Tissue replacement materials and devices and biodegradable polymers & composites for the millenium ahead” IIT- Kharagpur, December 2000.
3. **S. Ghosh**, A. K. Banthia. “Novel chiral polyamidoamine side chain dendritic polyester architecture: synthesis and characterization” Proceedings on “MACRO-2002- 7th national conference of the SPS- India and international seminar on frontiers of polymer science and engineering” held on Dec. 9 –11th, 2002 at IIT- Kharagpur, India. (Awarded 2nd prize for presentation).
4. **S. Ghosh**, A. K. Banthia, “Novel polyamidoamine (PAMAM) dendritic hydrogel architecture: synthesis and characterization:” 14th AGM-MRSI (2003), Theme symposium on “Novel polymeric materials”
5. **S. Ghosh**, participated in the seminar for the *Young Scientist Award Colloquium-2003*, MRSI-Kolkata Chapter held on 19th Sept 2003 at H.L.Roy Memorial Hall, ICE-Jadavpur University.
6. **S. Ghosh**, A.K. Banthia, “Novel polyvinylalcohol (PVA) – polyamidoamine (PAMAM) dendritic network: synthesis and characterization” The 2nd International Conference on Structure, Processing and Properties of Materials, SPPM2004, 25-27 February 2004, Dhaka, Bangladesh.

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7. **S. Ghosh**, A.K. Banthia, “*Fluorescent polyamidoamine (PAMAM) dendritic architecture: Synthesis and Characterization*” The International Symposium on Advanced Materials and Processing, ISAMAP 2K4, 6-8 December 2004, IIT-Kharagpur.
8. **S. Ghosh**, “*New strategy toward novel hyperbranched phenol-formaldehyde resin: Synthesis, characterization and curing study*” Presented (oral) in the international conference (ICAMP-4)- held on December 10-13, 2006, Hamilton, New Zealand.
9. **S. Ghosh**, C.K. Dey, R. Manna, “*1-Naphthylamine Labeled Epoxy-Based Fluorescent Polymer Sensor For Ferric Ion*” Presented in the *National Seminar on Current Trends in Chemistry-IV (NSCTC-IV)* held on Feb 26, 2010, Chemistry Department, University of Kalyani, WB.
10. **S. Ghosh**, M. Acharyya, “*Removal of azo dye (Orange-G) from aqueous solution by novolac resin-based network polymer*” Presented in the *National Seminar on Recent Trends in Chemical Science*, held on Nov18-19, Chemistry Department, Bankura Christian College, WB.
11. **S. Ghosh**, R. Manna, “*Epoxy-based polymers bearing activated azo dye units: colorimetric sensor materials for amines*” Presented in the national conference on Recent Developments in Chemistry (RDC-2013) held on October 3-5, 2013, Department of Chemistry, NIT- Durgapur, WB.
12. **S. Ghosh**, “*Amine sensing hyperbranched polymer bearing (Trifluoroacetyl) azobenzene units*” Presented in the 1st Regional Science and Technology Congress, Burdwan division, jointly organized by DST, Govt. of West Bengal and Bankura Christian College, Bankura held on November 7-8, 2016 at Bankura Christian College (Received Outstanding Paper Award).
13. **S. Ghosh**, “*Amine sensing hyperbranched polymer bearing (Trifluoroacetyl) azobenzene units*” Presented in the 24th West Bengal State Science and Technology Congress, 2017 on 28th February/1st March, 2017 at Science City, Kolkata.

Invited Lectures for conferences/symposia etc.

1. Presented lecture as resource person in the N.S.S. special camp at Bankura Sammilani College.
2. Presented lecture on “*Polymers from renewable resources: An overview*” in the national seminar on Environmental Friendly Biodegradable Polymers: Present and Future-- held on September 9-10, 2015, Department of Chemistry, Mugberia Gangadhar Mahavidyalaya, Purba Medinipur, WB.
3. Presented lecture on “*Selective Sensing of Mercury (II) Ions by Epoxy-based Polymers*” in the International Conference on Chemical Engineering and Advanced Polymeric Materials (ICEAPM 2016)-- held on August 18-20, 2016, BIT, Mesra, Ranchi, Jharkhand, India.
4. Presented lecture on “*Epoxy-based Fluorescent Probe for Fluoride Anion*” in the national seminar on “*Fluorosis and Arsenicosis: A Global Problem*”— held on September 13-14, 2016, Prabhat Kumar College, Purba Medinipur, WB.
5. Presented lecture on “*Azo-dye Organics: Environmental Impacts & Remediation*” in the national seminar on “*Environmental Education- A need of the day*”— held on September 23-24, 2016, Bankura Zilla Saradamani Mahila Mahavidyapith, Bankura, WB.
6. Presented lecture on “*Sensors as tools for the detection of mercuric ion*” in the national seminar on “*Chemistry Today- Nanoworld to Macroworld*”— held on December 22-23, 2016, Sonamukhi College, Bankura, WB.

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Seminars, Conferences, Symposia, Workshop etc. Attended

1. Symposium "*Current trends in Chemistry*" held on January 30-31, 2007, in the University of Kalyani, WB, India.
2. Seminar "*Chemistry Creates A New World*" held on August 24, 2007 at the Department of Chemistry, Bankura Christian College, Bankura, WB.
3. Lecture Workshop "*Concepts in Chemistry*" held on September 28-30, 2007 at the Department of Chemistry, Ramananda College, Bishnupur, Bankura, WB
4. Seminar: "*Role of metal ions in biological systems*" held on November 18, 2008 at the Department of Chemistry, Raghunathpur College, Raghunathpur, Purulia, WB.
5. Symposium on "*Recent Progress in Chemistry-2014*", held on August 13, 2014 at the Department of Chemistry, Sidho-Kanho-Birsha University, Purulia, WB.
6. National Seminar on "*Recent Developments in Green Chemistry*" (RDGC-2015) held on March 22, 2015 at the Department of Chemistry, Gushkara Mahavidyalaya, WB

Books Written:

Text Book-Degree Organic Chemistry (Three year General Degree Course (Sole Author))--- Publisher-
Chayaya Prakashani-Kolkata
